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The Honorable Joseph P. Pitts, Chairman
Subcommittee on Health
Committee on Energy and Commerce
House of Representatives
Congress of the United States

Dear Congressman Pitts,

It was an honor and privilege for me to appear before your Subcommittee on Health on Thursday, May 1, 2014 to testify at the hearing entitled "Telehealth to Digital Medicine: How 21st Century Technology Can Benefit Patients."

I am now responding to the questions that you listed in your letter of May 22, 2014. The responses are organized on the basis of the names of the Honorable Members of Congress who posed them. The questions are formatted in bold, followed by my responses. I am using both e-mail and regular US mail.

I would be more than happy to provide any additional information or clarification that you or members of your Committee may request.

Respectfully,

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Responses to questions by the Honorable Joseph R. Pitts

1. What role can telemedicine play to facilitate new payment models?

Telemedicine can play a significant role in developing a new and more efficient payment system that discourages inappropriate use of medical services while also encouraging appropriate use. This is what a good system of care delivery should do.

In order to facilitate new payment models, telemedicine must be linked with the necessary structural and financial reforms, such as pay-for-performance or pay-for-value rather than volume, Accountable Care Organizations, the medical home and patient-centered care. Telemedicine provides the tools to enhance the entire clinical care process, from initial triage of patients to appropriate sources of care, to care coordination, to clinical work flow efficiency, and to avoidance of unnecessary duplication of services. New payments models must provide incentives for the providers of care (including hospitals, clinics and physicians) to: (1) prevent illness through patient education, engagement, and the adoption of a healthy life style; (2) deliver early and timely interventions at the point of need; and (3) avoid unnecessary duplication of diagnostic tests and procedures and other forms of waste. New payment models can be effectively linked with the diffusion of telemedicine. That way, allowing providers to use telemedicine under new payment models would create savings and add value.

2. What payment models are likely to best encourage the development of telemedicine or benefit from the use of telemedicine and how?

The optimal payment models for encouraging further development and deployment of telemedicine can be described in various ways but all incorporating some form of global payment system instead of fee-for-service. Examples include the Medicare Advantage, capitated systems, employer sponsored capitated health plans in the private sector, or direct service delivery systems such as the VA, and the Indian Health Service.

Currently, 21 states and District of Columbia have enacted parity laws that require insurers to reimburse for telemedicine services at a level comparable to in-person care, but under similar restrictions as those of CMS. From a budgeting perspective, the strongest case for telemedicine coverage can be made in care coordination models. More specifically, because of budgeting concerns regarding expanded coverage under fee-for-service reimbursement, it may be best to consider narrow or sequential expansions based on priority applications and providers. These would include, for example, chronic disease management, stroke diagnosis and treatment, intensive care supervision, critical access hospitals, or underserved segments of the population in urban areas. Savings would accrue from reduction in the use of more expensive services, including emergency department and associated ambulance transport as well as keeping patients in their local hospitals.

3. How has the advancement of telemedicine in recent years benefited the discovery, development or delivery of health care?

As a modality of health care delivery, when optimally implemented, telemedicine will render appropriate care at the most appropriate time and location. Phenomenal advancements in telemedicine technology, including sensors, non-invasive devices and electronic tools now place medical care at the point of need and also provide new diagnostic capabilities, self-help tools, and health monitoring.

Telemedicine systems constitute innovative systems of care that rely on information and communication technology to enable, facilitate and enhance (1) doctor-patient interaction regardless of time or distance barriers; (2) the acquisition, exchange, processing and storage of health information of various types and complexities for safe and effective clinical decision making on the part of providers, as well as shared decision making on the part of patients regardless of location; (3) the efficiency and effectiveness of health systems through (a) onsite triage whereby patients are served in their local communities by their usual providers with advice and supervision by remote specialists, and transferred when necessary; and (b) avoidance of unnecessary clinic and emergency room visits and hospitalization; (4) the effectiveness of continuing medical education through the provision of prompt and patient-specific evidence based

medical knowledge; (5) while it obviates the need for travel and other inconveniences for both patients and itinerant providers.

Telemedicine interventions have been demonstrated as effective and efficient solutions in chronic disease management and timely access to specialists. Patients and providers using these systems are typically highly satisfied with quality and convenience.

4. As the capacity of telemedicine continues to grow, what regulatory bottlenecks are most like to get in the way of its further development?

Currently, there are two notable regulatory bottlenecks hampering the orderly diffusion of telemedicine in this country: (1) Reimbursement policies by the Centers for Medicare and Medicaid Services (CMS) requiring online (live, also referred to as synchronous) videoconferencing between an “originating site” where the patient is located together with a presenter (who can be a physician, a nurse, a therapist, etc) and a “remote site” where the consultant is located. The originating site must be in a medically underserved area. Reimbursement is denied for asynchronous telemedicine (also referred to as store-and-forward), whereby a complete medical history together with all the appropriate diagnostic imaging and laboratory tests are sent to the consultant for a remote first or second opinion for diagnosis and treatment recommendations, typically completed within 24 hours. The consultant does not have to devote more time for this service than necessary, as these remote consultations can be fitted into his/her routine workflow. Synchronous telemedicine is inefficient and unnecessary from a quality standpoint for most medical service with the exception of psychiatry, intensive care, stroke and some emergency situations. Dermatology is a prime example of a clinical service that relies heavily on imaging (or photography) for diagnosis. Yet, reimbursement is denied for asynchronous teledermatology. Currently, only Alaska and Hawaii are exempt from this provision. (2) Medical licensure is under the jurisdiction of the states where patients are located, not where physicians practice. Patients desiring to receive care, or second opinion, from a medical specialist in another state must travel to the location of the specialist. Because of the state-based licensing, patients may be

denied potentially timely critical diagnosis and life-saving advice from a specialist located in other states. Ironically, Medicare patients have the same health plan in all states, and the academic and professional requirements for licensing are fairly uniform across the United States.

5. Can telemedicine raise the quality of service provided to the patients? If so, how?

Quality of service is largely a function of qualifications, experience and competence of providers: physicians, nurses and therapists as well as the resource capabilities in medical centers. This is tantamount to saying that good doctors with good resources provide good care. At the same time, medical expertise keeps narrowing its focus to specific disease entities (e.g. cancer, diabetes, mental illness, etc), organs and systems (e.g. ophthalmology, dermatology, etc.), gender (e.g. obstetrics and gynecology), and age group (pediatrics, gerontology). There is also a growing trend of sub-specialization combining one or more of these foci (e.g. child and adolescent psychiatry, pediatric nephrology, pediatric cardiology, etc) as well as within disease entities, (e.g. adrenal cancer, pancreatic cancer, etc). As medical science and technology advance so will the tendency toward greater specialization because of the discrepancy between the skills of the primary care physician and the specialist in terms of who might best treat specific patients with specific problems. Specialists and sub-specialists tend to locate their practices in tertiary care centers where they can rely on the requisite technology available in these centers while also being able to draw an adequate patient population to support their practice. Telemedicine can bridge distance and time barriers between patients and expert providers regardless of location. At the same time, remote providers in isolated, rural, as well as urban areas can have ready access to colleagues for consultations and referrals when necessary. In some instances, ready access to expert medical advice can make the difference between life and death, such as the timely diagnosis of ischemic stroke and the timely administration of thrombolytic treatment under remote medical supervision, as well as the timely transfer of patients requiring surgical interventions.

6. Can telemedicine lead to more patients receiving care without costly, unnecessary and time-consuming trips to their doctors?

This is one of the unique attributes of telemedicine. When appropriate, patients are served where they live, work, study or even travel via inexpensive technologies that are now truly ubiquitous by virtue of mobile phone technology.

Telemedicine can also serve people who might not otherwise receive appropriate and timely care, such as patients meeting Medicare's definition of being "homebound" or too depressed to travel to a mental health professional.

7. Can expanded use of telemedicine help lower costs for Medicare and the health care system? If so, how?

The use of telemedicine in chronic disease management (also referred to as telemonitoring, telehome care and home telecare) has been demonstrated to reduce hospitalizations and emergency department visits among chronically ill patients. Such evidence has been published in numerous scientific studies, albeit with minor exceptions. That is, a few studies reported improvements in longevity but no reductions in hospitalization or emergency department visits. However, findings from these studies may not be generalized because they used very sick patients with numerous health problems (comorbidities) and other methodological limitations.

Chronic diseases account for nearly three-quarters of all health care expenditures in the United States. Indeed, "the preponderance of the evidence produced by telemonitoring studies points to significant trends in reducing hospitalization and emergency department visits, preventing and/or limiting illness severity and episodes resulting in improved health outcomes." (*Bashshur, Shannon, and Smith, 2014*).¹

Telemedicine has the potential for transforming the current healthcare system by creating seamless and ubiquitous care with continuous care management in integrated

¹ Bashshur, R, Shannon, G, Smith, B, et al "The Empirical Foundations of Telemedicine Interventions for Chronic Disease Management," *Telemedicine and eHealth*, in press.

systems with empowered and informed patients (and their caregivers) as partners at each stage care.

8. Medicare is a federally paid program. Can we leverage this nationwide program to use telemedicine to treat more patients at lower costs. If so, how?

As a federally paid program, we have the option of piloting various modalities of care delivery and financing to improve access to care (i.e. treat more patients) at lower cost. I think we need to be open to experimentation in searching for the optimal contexts for leveraging the Medicare program, such as Medicare Advantage, two-sided risk arrangements, and other care coordinated models. To be sure, a delicate balance must be achieved between serving the necessary needs of the population and discouraging inappropriate use of service, when the service is unnecessary, duplicative or wasteful.

As the nation's largest single payer, Medicare typically serves as a trend setter for other payers. Because of the size of its beneficiary population, Medicare has the potential to achieve economies of scale within active telemedicine networks. Medicare can foster virtual medical homes focused on chronic conditions. Telemedicine technology can be used to provide ongoing services by centers of excellence within regions of the country, and to have those centers serve as platforms for research.

9. How do you believe disadvantaged patients, with need for specialty care, in rural and urban areas, benefit from telemedicine?

Patients living in medically under-served areas can have ready access to expert medical consultations via telemedicine at low cost when faced with serious illnesses and life threatening conditions regardless of where they live, work, attend school, or even travel. This is because the technology obviates the need for a personal visit with the specialist unless such a visit is medically indicated. In surgical cases, for example, such visits are not necessary for pre-operation preparation and in the majority of post-operations. However, under current law, only patients living in medically underserved rural areas are covered under Medicare, Medicaid and some private insurers. We will

need to create parity regardless of residential location, and how telemedicine services are recognized as legitimate components of health care delivery.

10. Do you believe telemedicine has the potential to reduce overall health care costs for Medicare and other payers? Please explain.

If implemented with explicit controls and in the proper context, telemedicine has the potential to reduce costs for Medicare and other payers. Both organizational context (i.e., type of health system) and payment system (specifically the payment and incentive system) have to be taken into account, as both are critical to cost containment. Indeed, the fee-for-service payment system is not conducive to cost containment in any modality of care delivery, whether in-person or virtual via information technology, or organizational setting. I believe optimal results from telemedicine can be achieved in a system of care, within a network, or in an organized provider setting, such as a medical center linked with satellite clinics or private practices, a self-insured group, business or institution. Such results could also be in a capitated health plan that assumes responsibility for the health of its members.

Cost reductions can be achieved through true substitutions, in the sense that virtual visits are not simply added on to in-person visits. More importantly, cost containment can be realized in chronic disease management whereby patients assume a more active role in clinical decision making, in managing their own health in terms of understanding current and changing symptoms, managing their medications, and avoiding risky behaviors, such as smoking, excessive drinking, inappropriate diet, and sedentary life style. Early diagnosis and early treatment can result in very substantial cost savings. Similarly, primary and secondary prevention from the adoption of a healthy life style can relieve significant pressures on the health system by reducing demand for care.

11. Can the use of technology help treat patients who have chronic conditions, by home health monitoring and “home” telemedicine? Please explain.

I appreciate this question as it points to a critical area where telemedicine interventions would have substantial benefits. Before explaining these benefits, it may be

appreciated that chronic diseases: (a) constitute the leading causes of death in the United States; (b) account for nearly 75% of health care expenditures; and (c) are amenable to telemedicine interventions. Again, telemedicine interventions in chronic disease management enable patients to receive appropriate care, at the appropriate time and place, and in the most appropriate manner. It replaces the traditional “revolving door” arrangement for the care of chronically ill patients. The major pillars of telemedicine interventions in the management of chronic illness include patient-centered care, an activated patient, the medical home, and shared decision making. Follow-up visits to the doctor are not arbitrarily determined at set intervals, while exacerbations of chronic conditions can occur any time, and its timing cannot be predicted with any accuracy. Chronically ill patients can be monitored on a continuous basis to detect early exacerbations of symptoms and vital signs; receive prompt responses to identified needs and concerns. Early intervention would result in maximal health benefits and lower cost.

In home health monitoring (also referred to as telemonitoring, telehome health, home telehealth), patients would be provided with: (a) electronic devices that monitor significant vital signs and parameters relevant to specific patients and their particular condition(s); (b) educational materials tailored to their situation, including medication management, symptom recognition, as well as guides and inducements for the adoption of healthy life style and preventive measures; (c) tools for participating in “shared decision making” in terms of available options for treatment together with information on benefits and risks of alternative interventions; (d) ready access to their (electronic) personal health record to see trends in their health data, functional status, symptoms and benchmarks; and (e) ready access to medical advice when they have questions or concerns.

12. In healthcare, we have frequently seen new technologies promise to save money, but in reality creating a new way for providers to bill the Medicare program. How can we ensure that telemedicine actually does deliver the savings that it promises?

Traditionally healthcare technology as well as advanced medical procedures and pharmaceuticals have contributed to cost inflation. In all instances, these technologies have improved diagnostic and therapeutic capabilities. Improved health status typically comes at additional cost. For example, A CT scan of the brain for a stroke can reveal whether a patient is candidate for life-saving thrombolytic treatment, but it is also expensive. With telemedicine, we are considering a ***technologically-based modality of healthcare delivery*** that promises to save on cost while also improving access and quality. The question is how it delivers. This is a complex question. An appropriate response requires careful deliberation and perhaps some engineering. In other words, the desired effects may not happen automatically as a result of simply using the technology when needed or desired. Indeed, and the question can be addressed from several perspectives. From a health system/provider perspective, telemedicine must be utilized as a *true substitute* for in- person care (not an add-on) to the extent possible and medically justifiable. For example, video visits for nursing home patients can substitute for an ambulance ride to a hospital outpatient department.

Of course, the electronic health record (EHR) must be relied upon for medical history, allergies, diagnostic tests, etc. by all network participants where such networks exist. Where networks do not exist, a portable EHR would serve the same purpose. Redundancies in imaging and laboratory tests must be minimized, if not eliminated. This would require the use of standardized protocols in radiologic imaging, pathology tests and echo-cardiography, etc. Patients must be triaged at the point of need (where patients live, and travel to their daily activities such as work, or even study) to the appropriate source of care. There is no need for health problems that can be resolved at the primary care level to be referred to specialists. The emergency room must not be used for primary non-urgent care. High risk chronically ill patients who account for the largest portion of health care expenditures must be engaged and encouraged to adopt healthy life styles, to manage their medications, and to recognize and understand their medical conditions and the significance of their symptoms. In other words, for optimal results, telemedicine must be implemented in integrated systems of care where patients (or their caregivers) are actively involved in all aspects of the care process.

13. Our federal health care programs, and our commitment to fund them in the future, are being solely tested by the increasing cost of care in this country. How might telemedicine and 21st century technologies implemented on a national level help reduce those costs? Will you give some examples?

No doubt, we are facing major challenges in financing the health care system in this country and we need to find innovative ways to utilize the emerging capabilities of information and communication technology to address these challenges, specifically how to utilize emerging technologies, such as telemedicine, to help reduce or contain health care cost. It boils down to a necessary shift in the organization, care delivery and financing models still predominant. There is already a trend toward consolidation in the organization of care, as exemplified in the actual expansion of few large health systems, sometimes beyond state or regional boundaries, as well as increased partnerships between large and small health systems. This trend is likely to continue as many small community hospitals find themselves in financial difficulties. The acute care delivery model on which much of traditional care delivery has been based is no longer functional, particularly with the increased prevalence, high cost, and medical requisites for effective chronic disease management. Finally, the unbridled fee-for-service system has a built-in incentive for increasing revenue without regard to the ultimate effect on total expenditures. I have already mentioned some programs that utilize 21st century technologies that could potentially reduce cost. The key aspects of such programs include incentives for delivering quality and improved outcomes, penalties for excessive use of service and negative outcomes (including pay-for-performance, chronic disease management, activated patients, medical homes, and Accountable Care Organizations). We may still need large scale demonstration projects that test the utility of this technology in optimally integrated organizational, delivery and payment models that rely heavily on the functional aspects of health information and communication technology (ICT) – also known as telemedicine, telehealth, ehealth, mhealth, connected health, and ubiquitous health.

14. Some fear that if a cure for Alzheimer's is not found in the near term, the costs and workforce necessary to care for those with

the disease will put severe strains on our federal health care programs- that we will be hard pressed to bear. For patients with Alzheimer's, often the children are the caregivers for their parents. Such care requires constant supervision and can make it hard to hold down a job. Can telemedicine – virtual visits, patient remote monitoring, etc. – make caring for Alzheimer's patients more efficient and less burdensome on caregivers? If so, please explain?

This concern is genuine. Caregivers assume enormous responsibilities when caring for a parent with Alzheimer's Disease (AD), and they are often faced with extremely difficult choices or dilemmas, such as abandoning a parent at a time of need, disrupting family routines, or compromising employment. Caring for a parent with AD can be very challenging. In early stage AD, patients should be in contact (supervised) by a capable caregiver to ensure their safety and to retain a semblance of normal life. Caregivers need to know the situation of the patient almost continuously. They need to know about daily activities, including eating, dressing, and movement outside the home. If the patients are on medications for other AD and/or other conditions, caregivers need to ensure they are taking the proper medications according to prescribed regimen. When parents with AD are living alone, telemedicine can be used to connect the patient with the caregiver on a routine basis, thereby enabling the caregivers themselves to maintain a semblance of a normal life, to wit, hold down a job, shop, and provide for members of their family. In advanced stages of AD, telemedicine can be used to monitor remotely the patient's condition regardless of location be it at home or in an institutional setting. In addition to allaying caregiver worry, telemedicine will reduce the need to go to physicians' offices, emergency rooms, and in some instances hospitals. Also, importantly, telemedicine will allow AD patients to remain in their homes (and homes of their caregivers) and avoid being placed in long-term care facilities.

The Honorable Bill Cassidy

1. You mention the challenges with providing telemedicine services in a fee-for-service payment system. Do telemedicine services have the ability to reduce costs and increase quality for health care on a large scale in the world of fee-for-service payment? Please explain.

It will be a challenge to reduce cost and increase quality in a fee-for-service payment system in any modality of care, whether in-person or in telemedicine. However, some mechanisms can be brought to bear to assure quality and also place limits on price increases. For example, a fixed fee arrangement similar to a DRG on an outpatient basis, a bundled payment for an episode of illness, or pay-for-performance can be steps in the right direction. These can apply to telemedicine as well as in-person care.

Perhaps the critical issue will be how to assuage CBO's concerns that any increase in the demand for care would ultimately result in added expenditures, regardless of potential improvements in quality or health outcomes. In fact, an increase in demand for preventive care or early intervention will pay dividends in terms of preventing costly complications.

We may need to proceed with more experimentation with other payment methods and analysis of the results of such experimentation would produce definitive data rather than relying on actuarial estimates based on uncertain assumptions. For example, when the current Medicare telemedicine coverage was enacted, the CBO estimated total telemedicine expenditures at \$150 million over 5 years. The actual expenditures were just over \$3 million over that time period. The discrepancy can be explained largely on the basis of worst case actuarial assumptions.

2. In your opinion, under what health care payment system is telemedicine most suited?

As I mentioned in responding to other related questions earlier concerning the payment system, telemedicine is most suited in a system that has some form of global or bundled

payment that actually transfers some of the risk to the providers while also giving positive incentives. Examples include Medicare's "two-sided risk" method, the type incorporated in Medicare Advantage, current Pioneer ACOs, and the medical home demonstrations. A recent press release (1/30/2014) reported that savings from both the Medicare ACOs and Pioneer ACOS have exceeded \$380 million.

(<http://www.cms.gov/Newsroom/MediaReleaseDatabase/Press-Releases/2014-Press-releases-items/2014-01-30.html>)

A good starting point would be high cost high intensity services where the technology can be used as a substitute for in-person care, for example, remote diagnosis for stroke victims, monitoring for congestive heart failure, remote supervision of intensive care patients, high risk pregnancies, etc.

3. Will you explain the difference in how the incentives affect telemedicine services in a fee-for-service payment system versus some sort of capitated or global payment system?

As I understand it, the CBO is concerned about the increased demand for medical services once some of the barriers to care are reduced, thereby encouraging abuse of the system by patients through increased demand or by providers simply to generate more revenue. One can think of three ways in which this scenario can occur: (1) The first is pent-up demand for care in situations where care has been simply unavailable before telemedicine; (2) the second is based on 'moral hazard' hypothesis that posits that people will use more services once they become easier, or less costly, to do so; and, (3) the third is based on the "physician-induced demand" hypothesis that posits that physicians would simply try to generate more demand for their services either to make up for reductions in income or a desire to achieve a target income. Both moral hazard and physician-induced demand hypotheses can be obviated by a change in the payment system. Pent-up demand necessarily reflects a situation of un-met need where people were unable to receive the care they need by virtue of where they live or their income. That is, people who were unable to obtain necessary medical services to protect their health and avoid illness and disability would be likely to increase their use of such services once the service becomes more accessible to them by virtue of

telemedicine. Putting the human argument aside, it is extremely hazardous to estimate the actual volume of care that would be demanded once needed services are available closer to home. It is also difficult to obtain accurate estimate of the volume of unmet need in a given environment. For example, total telemedicine expenditures in Medicare in 2013 amounted to around \$12 million.

To the extent that telemedicine introduces greater efficiencies into the healthcare system and, by so doing, reduces expenditures and costs, it can be expected that any temporary “bump” in demand will be compensated for by savings. Furthermore, it may be appreciated that much of physician-related overutilization can be accounted for in high-cost procedures, surgery, hospitalization and radiology. The cost of some of these services can be reduced in telemedicine by substitution, such as keeping the patient at the local community hospital where these services are typically lower.

The Honorable Renee Ellmers

1. I would like to continue the discussion on care giving. As a nurse for over 20 years, it is a topic I am very familiar with. I would like to share some statistics:

- American caregivers are predominantly female (66%) and are an average of 48 years old.
- Most care for a relative (86%), more often a parent (36%)
- Family caregivers provide an average of 20 hours of care per week
- One in seven caregivers provides care, over and above regular parenting, to a child with special needs (14%)
- Care giving lasts an average of 4.6 years

Making it easier to get care to those who may have trouble traveling long distances to see a provider will improve outcomes and lives. Patients who have chronic conditions live longer and healthier lives when they have coordinated

care and adhere to treatment programs. Today, children, often the daughter, are the caregivers for their parents. They are the vital component of coordinated care. Millions of women, who are caregivers, want to be there for their loved ones but also need to be home to take care of their children or do that job.

With the billions of dollars invested in using broadband technologies national networks with high speeds and capacity, today's state by state licensing of doctors is a barrier that should be removed. Established in the 1800s, it is an antiquated relic and it is time for it to be changed as is it proving to be an impediment to providing quality care for seniors. This is why I am a proud cosponsor of Reps. Nunes and Pallone's H.R. 3077, the Tele-Med Act. This bill would allow Medicare doctors licensed in one state to see a Medicare beneficiary across state lines without a separate license.

Can we not use technology to ensure family members and caregivers are included in discussions with the provider and the patient they are caring for? Would it not improve communications if the caregiver can speak with the patient's doctor directly, with the patient and for the patient, and be kept up-to-date with what the doctor is telling the patient, without having that caregiver fly across the country to attend a short appointment? What barriers are we facing to making this a reality?

Of course, we can use the technology to facilitate discussions between family members and caregivers and remote providers while having access to the patient's electronic medical record. As well, with this technology, there is no need for the caregiver to fly across the country or drive a long distance to attend an appointment of any length, short or long. I think you are pointing out a critical benefit of telemedicine.

There are three kinds of barriers to improving communication between the provider and the patient or his/her caregiver when they are separated by geography. (1) The most critical barrier is the state-based licensing of medical practice, which requires the doctor to be licensed in the state where the patient is located. In fact, there is no licensing

issue when the patient travels to the state of his/her preferred provider and communicate directly. That would place the burden on the patient, the family and/or caregiver. The problem would be obviated if both sides can rely on information technology to communicate effectively and inexpensively. (2) Whether within state or inter-state, reimbursement remains a critical barrier to good, effective communication between the doctor and the patient. Currently, there are restrictions and hurdles for intra-state telemedicine practice, even when “virtual interactions” are demonstrably in the best interest of the patient, family and/or caregiver. (3) A third and related barrier has to do with reimbursement restriction for only online (live) videoconferencing, when other modes of communication with equal content and validity would enable full medical consultations in more efficient ways for both provider and patient. I concur that the optimal telemedicine intervention would include your recommendation to have the caregiver “online” with the patient and provider in order to facilitate informed decision making on behalf of the patient in direct contact with the provider.

The Honorable Joe Barton

1. How secure are medical records when using this kind of technology?

HIPAA rules now in full effect impose heavy penalties (both legal and financial) on the providers to protect all health information, including exchange of information that can be linked, even indirectly, to a given patient. Hence, this issue has been fully addressed by HIPAA stringent rules.

2. There are some concerns that if the doctor, the patient and the health insurance are in different places Medicare and Medicaid sometimes do not know how to or are unwilling to calculate the charges that result from a telemedicine visit. Would you please speak to that issue?

Both Medicare and Medicaid base their fee-for-service payment on where the physician or other provider practices, not where the patient resides or comes from. These fees are standardized in terms of insurance coverage, typically using approved CPT codes.

The Honorable John D. Dingell

- 1. Given your expertise in this field, do you believe that investing in telemedicine technologies to improve chronic disease management will save money over the long run? Please explain.**

If I may, I would like to quote the major conclusions addressing this question from a recent literature review that was presented in special briefings to both House and Senate on May 20 and 21, 2014, to wit, “There is a growing and complex body of evidence that attests to the potential of telemedicine for addressing the problems of access to care, quality of care, and health care costs in the management of three chronic diseases [congestive heart failure, stroke, and chronic obstructive pulmonary disease]. Despite some inconsistencies in methodologies, the preponderance of the evidence produced by telemonitoring studies points to significant trends in reducing hospitalizations and emergency department visits, preventing or limiting illness severity and episodes resulting in improved outcomes.” *Bashshur, Shannon and Smith, op. cit.*

- 2. Do you believe that the use of telemedicine can help improve access to care in medically underserved communities like the Upper Peninsula in Michigan? Please explain.**

There is no doubt that people living in medically underserved regions, such as many communities in the Upper Peninsula of Michigan and many other communities in the country can gain ready access to specialist care located at substantial distances from where they live or work by virtue of telemedicine. For example, there is already an active telemedicine network that serves communities in the Upper Peninsula. However,

there are many instances in which patients present difficult health problems that require the attention of a specialist outside this network. If a telemedicine consultation is arranged, the patient would not have to undertake a long, and, in some seasons, an arduous trip to a tertiary care center located in the southern region of the Lower Peninsula.

3. Is it correct that CMS has limited physician reimbursement for telemedicine to services provided in rural areas and do you believe that that is a good limit? Please explain.

Yes, this is correct, and whatever sense the Medicare restrictions in section 1834(m) made in 2000, they are no longer valid or appropriate. Indeed, they are inefficient and arbitrary at best. Telemedicine is the only benefit under Medicare that is determined by geographic location of the patient, thus invoking unequal treatment under the law. Under-served residents of urban areas should be equally qualified as residents of rural areas. Congress has directed CMS to study and report on opportunities to expand very restrictive coverage, so far without much success. That is, when 1843(m) was enacted as section 223 of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act (BIPA) of 2000, Congress directed CMS to study and report on opportunities to expand very restrictive coverage, as follows:

d) STUDY AND REPORT ON ADDITIONAL COVERAGE-

(1) STUDY- The Secretary of Health and Human Services shall conduct a study to identify—

(A) settings and sites for the provision of telehealth services that are in addition to those permitted under section 1834(m) of the Social Security Act, as added by subsection (b);

(B) practitioners that may be reimbursed under such section for furnishing telehealth services that are in addition to the practitioners that may be reimbursed for such services under such section; and

(C) geographic areas in which telehealth services may be reimbursed that are in addition to the geographic areas where such services may be reimbursed under such section.

(2) REPORT- Not later than 2 years after the date of the enactment of this Act, the Secretary shall submit to Congress a report on the study conducted under paragraph (1) together with such recommendations for legislation that the Secretary determines are appropriate.

4. How else has CMS restricted reimbursement for telemedicine in the United States today?

The major Medicare restrictions on telehealth are the work of Congress. Four other major barriers in 1834(m) are--

- Essentially no coverage for physician services based on asynchronous, or store-and-forward, communications (discussed further in #5)
- The patient must be at a designated health establishment – importantly, no coverage for home care.
- Some providers are not covered for telehealth services as otherwise permitted in Medicare – the major precluded categories are the therapies (physical, occupational, speech, audiology, and respiratory).
- Coverage is limited to specific CMS determined CPT/HCPCS service codes.

Also, pertaining to fee-for-service beneficiaries, there is no explicit coverage for remote patient monitoring services.

Plans for Medicare Advantage also cite problems with Medicare law, regulation, and administration hindering their use of telemedicine services.

5. Alaska and Hawaii are exempt from CMS reimbursement restrictions. Is the use of telemedicine more prevalent in those States in comparison to the continental 48 states? Do you believe that telemedicine technology used in Alaska and Hawaii are a model for the rest of the country?

The special provision regarding Alaska and Hawaii has to do with asynchronous services provided by Medicare demonstration programs in existence in 2000. The use of telemedicine in Alaska is very prevalent. I don't have data on Hawaii.

Common asynchronous services that are blocked by this restriction are interpretations of retinal scans associated with prevention of diabetic retinopathy, dermatologic images, some cardiac data, and video clips of patient behaviors.

Curiously, CMS covers comparable services by radiologists and pathologists under their definition of "physician services," not telemedicine. These include situations when a physician "is able to visualize some aspect of the patient's condition without the interposition of a third person's judgment."

I think it is time for CBO to analyze the true effects of expanded coverage for asynchronous services, at least for key providers such as federally-qualified health centers, critical access hospitals, or sole community hospitals.